130568

TABLE OF CONTENTS

		PAGE
Gene analysis by the partitioning method when interactions of genes are involved	*LeRoy Powers*	1– 23
Cytology and breeding behavior of twin plants of *Bromus inermis*	*Ellar L. Nielsen*	23– 54
Studies on the origin of ethylene from plant tissues	*Wayne C. Hall*	55– 65
Morphological and anatomical effects of 2,4-D on young corn plants	*Robert W. Hoshaw and Arthur T. Guard*	65– 74
Response of certain varieties of grapes to plant growth-regulators	*Robert J. Weaver and W. O. Williams*	75– 85
A quantitative evaluation of the *Lemna* test for herbicides	*F. Fromm*	86– 90
The use of activated oat seeds in the study of winter-hardiness	*S. S. Ivanoff*	90– 94
Action spectrum for inhibition of stem growth in dark-grown seedlings of albino and nonalbino barley (*Hordeum vulgare*)	*H. A. Borthwick, S. B. Hendricks, and M. W. Parker*	95–105
Alcohol-insoluble solids of juice vesicles and pulp of citrus fruit	*Walton B. Sinclair and Paul R. Crandall*	106–119
Effects of 2,4-D on dry weight, reducing sugars, total sugars, polysaccharides, nitrogen, and allyl sulfide in wild garlic	*Glenn C. Klingman and Gilbert H. Ahlgren*	119–134
New growth-regulating compounds. II. Substituted benzoic acids	*C. E. Minarik, D. Ready, A. G. Norman, H. E. Thompson, and J. Fred Owings, Jr.*	135–147
Effect of 2,4-dichlorophenoxyacetic acid and naphthalene acetic acid on increasing fruit-setting and delaying maturity of Montmorency cherries	*Q. B. Zielinski and R. G. Garren, Jr.*	147–150
Epigeal germination in the Leguminosae	*R. Ruggles Gates*	151–157
A new American species of *Bowmaniles*	*Henry N. Andrews, Jr. and Sergius H. Mamay*	158–165
Small petrified seeds from the Pennsylvanian of Illinois	*Florence E. Neely*	165–179
Effect of boron on germination of flax seed and on respiration of flax seedlings	*William Jensen*	180–185
Studies on the metabolism of plant neoplasms. I. Oxygen uptake of tomato crown-gall tissues	*George K. K. Link and David R. Goddard*	185–190
Studies on the metabolism of plant neoplasms. II. The terminal oxidase patterns of crown-gall and auxin tumors of tomato	*George K. K. Link and Richard M. Klein*	190–195
Biosynthesis of radioactive nicotine	*A. Ganz, F. E. Kelsey, and E. M. K. Geiling*	195–203

		PAGE
The genetic basis of woolly degeneration in *Neurospora crassa*	*T. C. Sheng*	203–206
Glutamic acid in sugar beets increased by zinc dimethyldithiocarbamate	*Jess L. Fults, Merle G. Payne, John O. Gaskill, Lucile R. Hac, and Albert C. Walker*	207–210
Moisture retention in leaves of conifers of the northern Rocky Mountains	*Johnson Parker*	210–216
Pectolytic enzyme activity in various parts of the cucumber plant and fruit	*Thomas A. Bell*	216–221
Oleoresin composition as a determinant of pine hybridity	*Bruce Zobel*	221–227
A record of *Sequoia* from the Jurassic of Manchuria	*Seido Endô*	228–230
Distribution of waxes in guayule	*T. F. Banigan, Jr., J. W. Meeks, and R. W. Planck*	231–234
The comparative anatomy and phylogeny of the Betulaceae	*John W. Hall*	235–270
Floral development, sporogenesis, and embryology in the avocado, *Persea americana*	*C. A. Schroeder*	270–278
An anatomical study of adventitious root development in stems of *Vaccinium corymbosum*	*John P. Mahlstede and Donald P. Watson*	279–285
Effect of indoleacetic acid on root growth of X-irradiated peas	*Edward S. Mika*	285–293
Occurrence of antimicrobial substances in chlorophyllose plants growing in Florida	*Grace C. Madsen and Anne L. Pates*	293–300
Effects of phosphorus deficiency on growth and metabolism of black mustard	*Scott V. Eaton*	301–309
Evidence on the auxin-ethylene balance hypothesis of foliar abscission	*Wayne C. Hall*	310–322
Effects of 2,4-dichlorophenoxyacetic acid upon the nitrogen metabolism and water relations of soybean plants grown at different nitrogen levels	*S. R. Freiberg and H. E. Clark*	322–333
An atypical growth of cabbage-seedling roots. I. Morphology, histology, and induction conditions	*A. T. Jagendorf, D. M. Bonner, and A. W. Naylor*	334–347
Studies on the relation between molecular structure and physiological activity of plant growth-regulators. I. Abscission-inducing activity	*Robert L. Weintraub, James W. Brown, Jean C. Nickerson, and Katharine N. Taylor*	348–362
Effect of applications of growth substances on sprouting of carrots, turnips, and onions in storage	*Stewart Dallyn and Ora Smith*	362–367
Translocation of 2,4-dichloro-5-iodophenoxyacetic acid in velvet mesquite seedlings	*Byron O. Blair and W. H. Fuller*	368–372
The chemical status of bean plants afflicted with bicarbonate-induced chlorosis	*C. H. Wadleigh and J. W. Brown*	373–392
The floral morphology of *Clethra alnifolia* with some notes on *C. acuminata* and *C. arborea*	*Leroy G. Kavaljian*	392–413
Reproductive activity in *Bromus inermis* in relation to phases of tiller development	*Herbert F. Lamp*	413–438

		PAGE
The relation of soil moisture to cleistogamy in *Stipa leucotricha*	*Walter V. Brown*	438–444
Vegetative anatomy of *Theobroma cacao*	*Erwin R. Brooks and Arthur T. Guard*	444–454
Taxonomic relationships and breeding possibilities of species of *Abelmoschus* related to okra (*A. esculentus*)	*B. P. Pal, H. B. Singh, and Vishnu Swarup*	455–464
On the structure of floral nectaries	*Abraham Fahn*	464–470
Distribution of the bitter principle in the shoot of *Helenium tenuifolium*	*Lora Mangum Shields*	471–475
Free and acid-hydrolyzable amino acids in four range grasses	*Glenn S. Rabideau*	475–479
Influence of temperature on formative response of bean seedlings to 2,4-dichlorophenoxyacetic acid	*James W. Brown and Robert L. Weintraub*	479–482
Lack of effect of plant growth-regulators on the action of alpha-amylase secreted by virus tumor tissue	*M. K. Brakke and L. G. Nickell*	482–484
A sand press method for preservation of natural colors in herbarium specimens	*B. T. Lingappa*	484–485
Index		487–492